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(54) Title: **AEROSOL DELIVERY SYSTEMS AND METHODS**

(57) Abstract: Methods and systems for aerosol delivery of agents to a patient are described herein. The present system can be used to administer various types of agents, such as a vaccine or other types of pharmaceutical substances. Certain embodiments of the present system utilize an actuator coupled to a disposable aerosolizing element that aerosolizes an agent for delivery to a patient when acted upon by the actuator. The aerosolizing element prevents the agent from contacting the actuator and other non-disposable components of the system so that little or no cleaning or maintenance is required. The present system also can include an aerosolization rate monitor that monitors the rate at which an agent is being aerosolized and provides feedback to the user to ensure that the proper dose is being administered.

WO 2006/006963 A2